

# BOTANICAL GAZETTE

DECEMBER 1897

## UNDESCRIBED PLANTS FROM GUATEMALA AND OTHER CENTRAL AMERICAN REPUBLICS. XIX.

JOHN DONNELL SMITH.

**Anona Pittieri** Donn. Sm. (§ ATTAE, CHERIMOLIAE Mart. Fl. Bras. 13<sup>r</sup>: 14)—Folia glaberrima crasso-chartacea opaca oblonga 4-plo longiora quam latiora, apice obtuso abrupte acuminata, basi obtusa, nervis lateralibus tantum subtus conspicuis paucis a margine remote anastomosantibus. Pedunculi laterales singuli aut fasciculati graciles. Petala inter maxima lineari-oblonga.

Leaves 16–18×4–5<sup>cm</sup>, nerves about 12 to the side, petioles 6–8<sup>mm</sup> long. Peduncles 1–5, equaling petals, flowers puberulous. Calyx 3<sup>mm</sup> high, segments deltoid. Petals 3, triquetrous, deeply concave at base, 3.3×0.7<sup>cm</sup>. Torus hemispherical, in anthesis 3<sup>mm</sup> broad. Stamens 1<sup>mm</sup> long, anthers twice longer than filaments. Ovaries pubescent, with equally long and oblong style added 2<sup>mm</sup> long; ovule 1, erect. Fruit not present.

Platanillo on the road to Cañas Gordas, Costa Rica, alt. 3400<sup>ft</sup>, Feb. 1897, *Pittier*, no. 11108 herb. nat. C. R.

**Capparis discolor** Donn. Sm. (§ CYNOPHALLA DC.)—Glabra. Folia in axilla eglandulosa lineari-oblonga utrinque acuta subtus candicantia et nervis venisque atris reticulata longepetiolata. Racemus terminalis sessilis, rhachi abbreviata, pedicellis longissimis. Sepala libera orbiculari-ovata a petalis oblongo-ovalibus 4-plo superata. Stamina toro conico insidentia, antheris linearibus. Ovarium gynophoro longius.

Leaves 10-14 × 2.5-3<sup>cm</sup>, petioles 3-4.5<sup>cm</sup> long. Raceme corymbiform, rachis about 1.5<sup>cm</sup> long, pedicels about 10, 2.5-4.5<sup>cm</sup> long. Sepals biserially imbricate, 5<sup>mm</sup> long, obtuse. Petals 18-20<sup>mm</sup> long, alternately somewhat broader, obtuse at each end, exunguiculate. Stamens indefinite, a third longer than petals, anthers 4<sup>mm</sup> long. Torus 4-glandular. Ovary cylindrical, a half longer than gynophore. Fruit not present in the specimens.

Forest of Rodeo de Pacaca, Costa Rica, Jan. 1891, *Pittier*, no. 3537 herb. nat. C. R.

**Norantea subsessilis** Donn. Sm. (§ COCHLIOPHYLLUM Delp. in Atti Soc. Ital. Sc. Nat. 12: 181.)—(*Ruyschia?* *subsessilis* Benth. Bot. Voy. Sulph. 73.—*Norantea* species? Wittmack in Mart Fl. Bras. 12<sup>1</sup>: 248.)—Specimina Tonduziana tantum florifera cum hac specie phrasibus nimis brevibus descripta satis bene congruunt. Folia 8<sup>cm</sup> longa 3<sup>cm</sup> lata ad basin aequalem 1<sup>cm</sup> lata glandulis uniserialibus e margine remotis utrinsecus circiter 10-12 notata, petiolis 2<sup>mm</sup> longis. Racemus crassus usque ad 5<sup>cm</sup>, pedicellis 5-6<sup>cm</sup> longis in quinta vel sexta parte inferiori bractea pendula obovata 14<sup>mm</sup> longa 8<sup>mm</sup> lata cuculliformi atro-purpurea instructis. Prophylla calyci appressa sepaloidea. Sepala 5-6<sup>mm</sup> longa, exteriora latiora quam longiora. Petala libera elliptica 1<sup>cm</sup> longa per anthesin in massa decidua. Stamina circiter 13, antheris ovalibus 3<sup>mm</sup> longis utrinque retusis quam filamenta complanata paulo brevioribus. Ovarium depresso-globosum 3<sup>mm</sup> altum 5<sup>mm</sup> latum striatum 3-loculare spurie septatum intus pubescens, stylo crasso 3<sup>mm</sup> longo, stigmatate subintegro. Ad *Noranteam Jussiaei* Tr. et Planch. accedit.

Páramos del Abejónal, Costa Rica, alt. 5800<sup>ft</sup>, Apr. 1893, *Tonduz*, no. 7897 herb. nat. C. R.

**Malpighia dasycarpa** Donn. Sm.—Folia juniora sparsim pilosa, adulta glabrata ovato-elliptica longe acuminata ad basin obtusa integra longiuscule petiolata, stipulis binis interpetiolaribus oblongo-ovatis. Corymbi axillares et terminales longissime pedunculati laxi, bracteis foliaceis, pedicellis brevissimis. Calyx 8-glandulosus. Petala breviter unguiculata. Filamentorum tubus partes liberas aequans. Ovarium hirsutum.

Younger leaves oblong-elliptical, at base acutish, canescent beneath on midrib and nerves, the older 15 × 7<sup>cm</sup>, apex mucronulate; nerves 6-7 to the

side, prominent beneath; petioles 8–13<sup>mm</sup> long; stipules canescent, 3–4<sup>mm</sup> long, deciduous. Peduncles 4–6<sup>cm</sup> long, bracts 1.5–3<sup>cm</sup> long, primary axes 1–2.5<sup>cm</sup> long, pedicels 4–5<sup>mm</sup> long. Segments of calyx orbicular-ovate, 3<sup>mm</sup> long, pubescent. Petals oval, with claw 2–3<sup>mm</sup> long added 8–10<sup>mm</sup> long, the interior one exceeding the others. Staminal tube 1<sup>mm</sup> high, anthers 2<sup>mm</sup> long. Ovary globose, 2<sup>mm</sup> in diam., equaling the styles. Fruit not present.—Distinct by the ovary from all known species except *M. parvifolia* A. Juss.

Rio Samalá, Depart. Retalhuleu, Guat., alt. 1700<sup>ft</sup>, Oct. 1891, *Shannon*, no. 217 Pl. Guat., etc., qu. ed. Donn. Sm. sub *M. glabra* L.?—Banks of Rio Torres, San Francisco de Guadalupe, Costa Rica, alt. 3400<sup>ft</sup>, Nov. 1893, *Tonduz*, no. 8444 herb. nat. C. R.—San Juan del Norte, Nicaragua, June 1895, *Pittier*, no. 9653 herb. nat. C. R.

**Malpighia edulis** Donn. Sm.—Ramuli cum foliis subtus et inflorescentia ochraceo-tomentelli. Folia supra praeter costam nervosque glabrescentia elliptica utrinque praesertim superne acuminata hujus generis inter maxima. Umbelli axillares et terminales foliis multoties breviores, pedunculis petiolos paulo superantibus pedicellos 4–7-fasciculatos subaequantibus. Calyx 10-glandulosus. Petala trimorpha. Stamina inaequilonga.

Leaves 15–19×6–9<sup>cm</sup>, petioles 8<sup>mm</sup> long; stipules petiolar, subulate, 2–3<sup>mm</sup> long. Peduncles 10–12<sup>mm</sup> long; pedicels in middle articulated and bracteolate; bracteoles 2, oblong, 2<sup>mm</sup> long. Segments of calyx tomentulose, oblong-ovate, 2<sup>mm</sup> long. Inmost petal the largest, with claw 2<sup>mm</sup> long added 1<sup>cm</sup> long, oval, entire margin pectinate with a fringe 2–3<sup>mm</sup> long; 3 interior petals more orbicular, pectinate on one side only; external petal pectinate only at its hastate-cordate base. Stamens alternately longer; the tube 1<sup>mm</sup> high, shorter than the free portions of the longer filaments. Ovary glabrous, 3<sup>mm</sup> high, equaling styles.—Nearest to *M. Mexicana* A. Juss.

Forest of La Carpintera, Costa Rica, Aug. 1891, *Pittier & Tonduz*, no. 4394 herb. nat. C. R.—San Francisco Dos Rios, C. R., Aug. 1891, *Pittier*, no. 4409 herb. nat. C. R. Cultivated for its fruit. Popular name *Acerolla*.

**BANISTERIA CORNIFOLIA** Spreng., var. **discolor** Donn. Sm.—Folia subtus pube argenteo-sericea nitescentia. Paniculae floribundae folia superantes.

San Pedro de la Calabaza, Costa Rica, alt. 3300<sup>ft</sup>, Oct. 1896, *Tonduz*, no. 10924 herb. nat. C. R.

**Zanthoxylum ferrugineum** Radlk. (EUZANTHOXYLUM Endl.; Tr. et Planch. in Ann. Sc. Nat. V. 14: 308)—Arbor, ut videtur, inermis; ramuli ultimi in novellos florigeros lana ferruginea

obductos continuati glabrati, crassiusculi (diametro 7<sup>mm</sup>), cortice plicato-rugoso cinereo; folia alterna, impari-pinnata, ad apices ramulorum conferta, novella ad petiolos rhachesque necnon subtus margineque et praesertim infima rudimentaria perulas pinnatilobas exhibentia lana densa ferruginea fugaci e pilis longi-articulatis pauciramosis vel fasciculato-stellatis contexta induta necnon, ut et adultiora, pilis albidis breviarticulatis in cellulam elongatam acutam terminatis aliisque unicellularibus adpresse adpersa, adulta (petiolo 4<sup>cm</sup> longo adjecto circ. 24<sup>cm</sup> longa, 10-12<sup>cm</sup> lata) ad axillas exsudationes gummosas interdum foventas, rhachi nuda pubescente, stipulis nullis; foliola subopposita, 6-8-juga, membranacea, penninervia, ex ovato oblonga, intermedia majora (6.5<sup>cm</sup> longa, 2.5<sup>cm</sup> lata), acuta, basi inaequali subsessilia, margine hyalino subintegerrima, vix nisi inferiora paucicrenata, in sinibus glandula interna oleipara pellucida magna instructa, insuper subtus juxta nervum medianum hincinde glandulis superficialibus scutatis (quas nectaria extranupitalia vocant) notata et glandulis parvis numerosissimis per staurenchyma et pneumatenchyma dissitis dense minutim pellucidopunctata, necnon glandulis lepidoides parenchymaticis foveolis insidentibus (aegrius perspiciendis) supra subtusque adpersa, epidermide non mucigera; flores (masculi tantum suppetebant) in paniculas ad apices ramulorum inter folia novella (6-10<sup>cm</sup> longa) interjectas (subaequilongas) lanoso-pilosas densifloras corymboso-cymosas in polychasia capituliformia basi dichasia gerentia desinentes congesti, breviter pedicellati, pedicellis basi bracteolarum loco saepissime flores rudimentarios gerentibus; perianthii foliola 9-10, linearia (2-3<sup>mm</sup> longa), alia (plus minus conspicue exteriora et sepalis respondentia) breviora et angustiora, alia (subinteriora, reliquis subalterna) longiora et paululo latiora, omnia tenuiter membranacea, flavidula, pilis glandulisque raris lepidoides adpersa, glandulis internis punctata; staminum vestigia nulla; discus gynophorus brevis, glaber; pistillum monomerum, disco insidens (vix 3<sup>mm</sup>); germen (1<sup>mm</sup> vix superans) gibboso-obovatum, dorso convexum, ventre recto (floris partem posteriorem spectante) in stylum sublateralem (paulo longiorem) filiformem continuatum,

pilis furcatis vel fasciculato-stellatis tomentosum glandulisque lepidoides tumide lenticularibus obsitum, intus glabrum; stylus basi pilis similibus, superne pilis eramosis unicellularibus puberulus, in stigma capitellatum terminatus; gemmulae in loculo supra mediam raphen ventralem duae, collateraliter suspensae, anatropae, epitropae (rhaphe ventrali, micropyle extus supera); fructus ignotus.

Near Alajuela, alt. 2700<sup>ft</sup>, March 1896, *Donn. Sm.* no. 6468 Pl. Guat., etc., qu. ed. Donn. Sm.

**Microtropis occidentalis** LOES.—Glaberrima; ramulis oppositis, i. s. atro-brunneis, nitidis longitudinaliter striatis, 1–3<sup>mm</sup> crassis; foliis oppositis, chartaceis, 8–10<sup>mm</sup> longe petiolatis, integerrimis, basi cuneatis usque subobtusis, apice obtusiuscule et plus minus manifeste acuminatis, 6–13<sup>cm</sup> longis, 2–5<sup>cm</sup> latis, i. s. viridibus subtus pallidioribus, costa supra plana vel vix prominula, subtus subprominente, nervis lateralibus utrinque circ. 6 tenuissimis ad apicem versus curvatis, tenuissime et densiuscule reticulatis, supra vix prominulis, subtus tenuissime prominentibus; inflorescentiis in foliorum axillis solitariis plerumque bis dichotome furcatis, 6–12<sup>mm</sup> longe pedunculatis, bracteis deltoideis, acutiusculis, subcarinatis, usque circ. 1<sup>mm</sup> longis, pedicellis ultimis brevissimis; floribus sub anthesi circ. 3<sup>mm</sup> diam., sepalis 4 vel plerumque 5 rotundatis inaequalibus, interioribus majoribus, ut bracteae obscure marginatis et sub lente tenuiter fimbriatis, petalis 4–5 rotundatis albidis, staminibus 4–5 in disci 4–5-goni angulis insertis, vel, si vis, filamentis basi in discum 4–5-gonum dilatatis, sepalis oppositis et eis brevioribus, antheris parvis, cordiformibus, sterilibus, ovario tantum basi disco subimmersum, ceterum libero, conico in stylum brevem et crassiusculum angustato, incomplete 2-loculari, ovulis 4 placentae brevi centrali affixis, stigmatate parvo capitellato; fructu capsulari, oblongo, apice breviter apiculato, uniloculari, circ. 12–13<sup>mm</sup> longo, dehiscente (?), monospermo, semine e basi erecto, rugoso, testa arillam simulante, albumine parco et duro, embryone magno, cotyledonibus ovali-oblongis, viridibus.

Peraffinis *M. discolori* Wall., speciae Indicae, ut genus totum adhuc tan-

tum ex India orientali notum est. Illa vix nisi disco obsoletiore a nostra specie recedit. Plantam nostrae simillimam a Schiede in Mexico in Cumbre del Obispo lectam et propter flores nondum plane evolutos atque ob patriam plane extraordinariam adhuc indeterminatam in herbario regio Berolinensi inveni.

Volcán de Poas, alt. 8000<sup>ft.</sup>, March 1896, *Donn. Sm.*, no. 6470 Pl. Guat., etc., qu. ed. Donn. Sm.

**Luehea meiantha** Donn. Sm. (§ POLYANTHAE Schumann in Mart. Fl. Bras. 12<sup>3</sup>: 152)—Folia discoloria elliptico-vel obovato-oblonga longe acuminata ad basin obtusam 3-nerviam inaequalia. Cymulae breviter pedunculatae, floribus minimis. Involucri bracteolae 3 oblongo-ellipticae 3-nerviae sub anthesi caducae pedicellis longiores sepalis linearibus dimidio breviores. Petala a sepalis 2–3-plo superata oblonga. Annulus barbatus staminodiis respondens. Stamina levissime coalita, antheris ellipticis. Ovarium trigonum 3-loculare.

Indument stellate, pale ochraceous. Leaves 16–22 × 5–8.5<sup>cm</sup>, sparsely pubescent above, more densely beneath, and like panicles, involucre and calyx sometimes tomentulose; basal nerves disappearing in upper third part of leaf, the lateral arising above the middle and about 3 to the side, transverse veins parallel and somewhat remote; margin above middle slightly and distantly appressed-serrulate; petioles 1.5–2.5<sup>cm</sup> long. Panicles axillary and terminal, subequaling leaves; bracteoles oblong-ovate, 3<sup>mm</sup> long, reflexed, deciduous. Sepals 8–11 × 1.5–2<sup>mm</sup>, acute, villous within. Petals roseate, 4 × 1<sup>mm</sup>, abruptly contracted into a claw that is thickened within with an entire cuneate gland 1<sup>mm</sup> long, densely barbate above gland. Gynophore 7<sup>mm</sup> high. Annulus of staminodes 0.5<sup>mm</sup> broad, the hairs 1<sup>mm</sup> long. Stamens about 25, of unequal length, the longer a little shorter than sepals, like staminodes obscurely fasciculate in five groups, anthers 0.25<sup>mm</sup> long. Ovary elongate-elliptical 2.5<sup>mm</sup> long, twice exceeded by filiform style. Capsules not present.—Anomalous by staminodes, anthers and ovary.

Jiménez, Llanos de Santa Clara, Costa Rica, alt. 600<sup>ft.</sup>, Sept. 1896, *Cooper*, nos. 10212 & 10850 herb. nat. C. R.

**BURMEISTERA CYCLOSTIGMATA** Donn. Sm., in BOT. GAZ. 20: 291, var. **Suerrens** Donn. Sm.—Folia oblongo-ovata aut ovato-lancelota, floralia ovata. Calycis dentes triangulares tubo 3-plo breviores.

Suerre, Llanos de Santa Clara, Costa Rica, alt. 900<sup>ft.</sup>, Feb. 1896, *Donn. Sm.*, no. 6623 Pl. Guat., etc., qu. ed. Donn. Sm.

**Vaccinium Poasanum** Donn. Sm.—Glabrum. Folia brevipetiolata sempervirentia integerrima oblongo-elliptica, apice contracto et obtuse acuminato, basi cuneata. Racemi axillares foliis breviores, rhachi brevi, pedicellis paucis gracilibus flores aequantibus. Corollae campaniformis lobi brevissimi. Antherae muticae poro terminali dehiscentes, loculis quam filamenta brevioribus a tubulis 3-plo superatis. Bacca 5-locularis.

Shrub 2<sup>m</sup> high. Leaves coriaceous, opaque, 5-7×2-3<sup>cm</sup>, petioles 2-3<sup>mm</sup> long. Rachis about 8<sup>mm</sup> long; pedicels 4-5, erect, 10-14<sup>mm</sup> long, bracteate at base, bibracteolate in middle; bracts and bracteoles scariose, triangular-linear, 2-3<sup>mm</sup> long, aristulate, fusco-ciliate. Calyx turbinate, 4<sup>mm</sup> long, limb mucronate. Corolla white, 1<sup>cm</sup> long, 8<sup>mm</sup> broad, not contracted above; lobes broad, acuminate, spreading. Stamens 10, epigynous, a little shorter than corolla; filaments free, villose, 3<sup>mm</sup> long; anthers affixed above middle, cells 2×1<sup>mm</sup>, slender tubes 6-7<sup>mm</sup> long. Berry globose, 6-7<sup>mm</sup> in diam., many-seeded, spurious dissepiments none.

Borders of the upper lake of Volcán Poas, Costa Rica, alt. 7800<sup>ft</sup>, Mch. 1896, *Donn. Sm.*, no. 6634 Pl. Guat., etc., qu. ed. Donn. Sm.—Summit of Volcán Poas, alt. 8500<sup>ft</sup>, Nov. 1896, *Tonduz*, no. 10783 herb. nat. C. R.

<sup>F236-575</sup> **Ardisia auriculata** Donn. Sm.—Glabra. Folia immaculata sessilia maxima obovato-oblonga in triente parte superiore acuminata deorsum in lobos amplexicaules angustata. Paniculae terminales geminae pyramidales amplae, ramis solitariis, pedicellis ad apicem versus ramorum secundariorum racemosis gracilibus. Calycis lobi ovati acuti. Bacca viridis grosse maculata.

Tree of medium size; branches smooth, pallid. Leaves entire, chartaceous, pellucid, impunctate, minutely lepidote beneath, 4<sup>dm</sup> long, above middle 13<sup>cm</sup> and at base 4<sup>cm</sup> broad, round auricles 1<sup>cm</sup> long; lateral nerves spreading, arcuate; pseudo-nerves 2, distinct, remote from margin. Panicles penduculate, scarcely exceeded by leaves, pedicels 6-10<sup>mm</sup> long. Lobes of calyx 2<sup>mm</sup> long, marked by oblong spots. Berry depressed-globose, 6-7<sup>mm</sup> in diam. Flowers not present.

Forests of Suerre, Llanos de Santa Clara, Costa Rica, alt. 900<sup>ft</sup>, Feb. 1896, *Donn. Sm.*, no. 6640 Pl. Guat., etc., qu. ed. Donn. Sm.

<sup>619</sup> **Ardisia stenophylla** Donn. Sm.—Folia supra medium subcrenulata lineari-oblongata acuminata in petiolum brevem attenuata punctis et lineis pellucida, nervis primariis paucis.

Panicula terminalis sessilis foliis brevior laxiflora, pedicellis ad apicem versus ramorum primariorum alternorum racemoso-fasciculatis gracilibus. Alabastra lanceolato-ovoidea. Lacinae calycinae et corollinae subsejunctae, hae quam illae altero tanto longiores. Antherae trigono-lineares, filamentis in tubum brevissimum omnino connatis.

Arboreous. Everywhere glabrous except the ciliolate calyx. Leaves crowded toward end of branchlets 14-18 × 3-3.5<sup>cm</sup>, chartaceous, midrib prominent above, less conspicuous beneath; primary lateral nerves remote, about 10, arcuate, long-ascending; petioles 5-7<sup>mm</sup> long. Panicle 6-9<sup>cm</sup> long; branches spreading, 2-3<sup>cm</sup> long; pedicels 9-12<sup>mm</sup> long. Alabastra 6<sup>mm</sup> long. Flowers punctate. Segments of calyx 3-nerved, lanceolate, 2.5<sup>mm</sup> long, spreading before anthesis. Segments of corolla white, oblong, acute. Anthers 5<sup>mm</sup> long, acute. Ovary oval, 1<sup>mm</sup> long, produced into style ancipital below and equaling stamens. Berries not present.

Small tree, forests of Shirores, Talamanca, Costa Rica, alt. 300<sup>ft</sup>, Feb. 1895, *Pitt. & Tond.*, no. 9173 herb. nat. C. R.—Forests of Tsâki, Talamanca, alt. 600<sup>ft</sup>, Aug. 1895, *Tonduz*, no. 9586 herb. nat. C. R.

F243-190 **Forestiera Cartaginensis** Donn. Sm.—Glabrata. Folia coriacea ovato-elliptica utrinque acuminata integra aut supra medium grosse serrata rectinervia, margine revoluta. Racemorum pedicella 5-7 plerumque oppositi. Drupa dimidiato-elliptica laciniis calycinis lineari-lanceolatis minutis suffulta, putamine striato.

Arboreous, 5-7<sup>m</sup> high, branchlets rigid, the younger pubescent. Leaves not porulose, pubescent beneath on midrib, 5-7 × 2-4<sup>cm</sup>, narrowed to canaliculate petiole 4-6<sup>mm</sup> long. Scales of leaf buds pluri-imbricate, triangular-ovate, 2<sup>mm</sup> long, ciliate. Rhachis of fruiting racemes 9-12<sup>mm</sup> long, pedicels 3-4<sup>mm</sup> long. Segments of calyx 1<sup>mm</sup> long, ciliolate. Drupe 8-9<sup>mm</sup> long, arcuate on one side, straight on the other; crowned with persistent style 1<sup>mm</sup> long, 1-seeded, putamen lignose. Flowers not present. Approaching *F. racemosa* Watson by inflorescence, and *F. porulosa* Poir. by drupes; this species differs from both by its foliage.

✓Cartago, Costa Rica, alt. 4600<sup>ft</sup>, Dec. 1887, *Cooper*, no. 5849 Pl. Guat., etc., qu. ed. Donn. Sm.—Slopes below San Rafael de Cartago, C. R., alt. 5100<sup>ft</sup> Oct. 1894, *Pittier*, no. 9028 herb. nat. C. R.

**Tabernaemontana Alfari** Donn. Sm. (§ TABERNA a Miers pro genere proposita)—Folia breviter petiolata membranacea pellicida minute reticulata oblongo-elliptica caudato-acuminata ad imam basin acuta saepe in eodem jugo dimorpha. Cymae e



dichotomiis singulae aut binae brevissimae subtriflorae. Calycis parvi paucisquamuliferi lobi orbiculati nervosi. Corollae luteæ tubus calyce 12-ies longior paulo infra medium staminiferus et contortus. Carpella ovato-lanceolata disco usque ad  $\frac{1}{3}$  adnata.

Arboreous, 3-4<sup>m</sup> high, glabrous throughout, abounding in resinous juices. The larger leaves in the pair 8-11 × 3.5-5<sup>cm</sup>, abruptly prolonged into a tip 1<sup>cm</sup> long; the smaller ovate 3-4 × 2-2.5<sup>cm</sup>; all subsessile and with about 10 spreading nerves to the side. Cymes about 1<sup>cm</sup> long, bracteose; pedicels scarcely longer than calyx and incrassate beneath the flower. Segments of deeply partite calyx 3<sup>mm</sup> long, 1-5-squamuliferous, some of them occasionally naked. Tube of corolla 3.5<sup>cm</sup> long, 4<sup>mm</sup> wide in middle, subampliate at throat, twice exceeding the 1<sup>cm</sup> broad segments, pubescent between the stamens. Anthers sessile, 6<sup>mm</sup> long. Disk stout, 1<sup>mm</sup> high. Follicles not seen.—Nearest to *Taberna disparifolia* Miers.—Named for Sr. Don Anastasio Alfaro, Secretary of the National Museum of Costa Rica, in memory of kind services while his guest at Suerre.

Forests of Suerre, Llanuras de Santa Clara, C. R., alt. 900<sup>ft</sup>, Apr. 1896, *Donn. Sm.*, no. 6648 Pl. Guat., etc., qu. ed. *Donn. Sm.*—Limoncito y Vuelta, Cañas Gordas, C. R., alt. 3400<sup>ft</sup>, Feb. 1897, *Pittier*, no. 11094 herb. nat. C. R.—Forests of River Naranjo, C. R., alt. 600-800<sup>ft</sup>, March 1893, *Tonduz*, no. 7645 herb. nat. C. R.

**TABERNAEMONTANA DONNELLSMITHII** Rose, var. **Costaricensis** *Donn. Sm.*—Folliculi verrucosi ovales acuminati.

Borders of Rio Toro, Amarillo, Llanos de Santa Clara, C. R., alt. 1000<sup>ft</sup>, Apr. 1896, *Donn. Sm.*, no. 6646 Pl. Guat., etc., qu. ed. *Donn. Sm.*

**Tabernaemontana longipes** *Donn. Sm.*—Folia magna obovato- aut elliptica-oblonga in acumen subito producta deorsum attenuata. Cymae longissime pedunculatae folia fere aequantes repetitus dichotomae floribundae. Calycis lobi ovati squamulis 5 muniti. Corollae tubus ad basin ampliatus calyce 3-plo longior segmentis elongato-acuminatis triente brevior ad medium staminiferus. Discus subnullus. Carpella ovata acuta.

Epiphytal, glabrous, branchlets compressed toward their tips. Leaves 20-26 × 7-9<sup>cm</sup>, chartaceous, shining, dots and veins pellucid; nerves chiefly opposite, 12-15 to the side, spreading and ascending arcuately to the margin, like the broad midrib complanate and fuscous on lower side of leaf; petioles 2-2.5<sup>cm</sup> long, dilated at base, subconnate. Peduncles geminate in the forks, 10-22<sup>cm</sup> long, cymes diffuse, primary axes 3-6<sup>cm</sup> long, pedicels 5-10<sup>mm</sup> long;

bracteoles ovate, 1–2<sup>mm</sup> long. Lobes of calyx 2.5<sup>mm</sup> long, obtuse, margins hyaline, squamules subulate. Corolla white; tube cylindrical, dilated above middle, narrower than the oblong-ovoid bud of the segments, pubescent below the stamens; segments 10–12<sup>mm</sup> long, dolabriform, abruptly acuminate. Anthers included, blue, 3<sup>mm</sup> long. Style 3–5<sup>mm</sup> long; stigma annulate below, 5 angulate above. Follicles not present.—Related to *T. citrifolia* Jacq. by structure of flowers, but differing by foliage, inflorescence, and insertion of stamens.

Hacienda de La Concepción, Llanuras de S. Clara, Costa Rica, alt. 600<sup>ft</sup>, Feb. 1896, *Donn. Sm.*, no. 6650 Pl. Guat., etc., qu. ed. *Donn. Sm.*

FISCHERIA MARTIANA Decne., var. **funnebris** *Donn. Sm.*—Fusco-hirsuta. Segmenta calycina glandulosa linearia 1<sup>cm</sup> longa corollinis planis longiora.

Chilamate, borders of Rio Sarapiquí, Costa Rica, Feb. 1893, *Biolley*, no. 7385 herb. nat. C. R.—Forests of Santo Domingo-de Golfo Dulce, C. R., Mch. 1896, *Tonduz*, no. 9936 herb. nat. C. R.

ERYTHRAEA STRICTA Schlecht., var. **tereticaulis** *Donn. Sm.*—Caulis sicut inflorescentiae axes teres. Flores tetrameri quam ei plantae typicae majores.

Uncultivated grounds at Surubres near San Mateo, Costa Rica, *Biolley*, no. 7076 herb. nat. C. R.

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